

**This DVD was edited from a 3 hour session. The full course contains more information. The following is an outline of the whole course.**

**UNITED SCENIC ARTISTS, Local USA829, IATSE**

181 Thompson St., #23, New York, NY 10012-2586 212/777-0062, ACTSNYC@cs.com,  
[www.artsandcraftstheatersafety.org](http://www.artsandcraftstheatersafety.org)

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**HAZCOM TRAINING for COSTUME DESIGNERS, MAKERS, & WARDROBE**

**PART I: LAWS & STANDARDS**

**Who are the players?**

Regulators - OSHA (CalOSHA on coast), EPA, FDA, CPSC, etc.

Standards agencies - ACGIH, ASHRAE, NIOSH, NFPA, ASTM, ANSI, ESTA, etc.

**The Workplace: Who's in charge of/liable for what?**

employer's and employee's responsibilities: inform, train, enforce, exemplify  
volunteers/students/interns and the audience

**The Hazard Communication Standard (29 CFR 1910.1200) Employer must provide:**

1) Written Program, 2) inventory, 3) labeling, 3) MSDSs, 4) access 24/7, 5) formal training

Labeling means full identity, warnings, manufacturer's name/address

Material Safety Data Sheets (MSDSs) not always truthful

**Emergency Action/fire Prevention (1910.38-39 & 157(g), 1926.150).**

Before work starts, employer provides training about the facility's alarm and fire suppression systems, exit routes, where to meet for a head count, fire extinguishers, etc.

**Medical Services/first Aid (1910.151, 1926.50).**

Access and training for CPR, first aid or other services, First aid kits

Proper eye washes and emergency showers for chemicals

**Bloodborne Pathogens Standard (1910.1030)training for non medical personnel**

**Personal Protective Equipment (1926.28,1910.132-133).** Employers must provide documented training in the proper use of protective gear: eye protection, gloves, head protection

**Respiratory Protection (1926.103,1910.134).** Employer provides:

1) written program with risk assessment, 2) Medical certification, 3) Fit testing, 4) Training

**Sanitation (1910.141).** Employers must provide bathrooms, general cleanliness & eating area.

**Housekeeping (1910.22, 1926.25).**

\* Floors must be clean and dry, free from loose boards, trip hazards, nails, etc.

\* Aisles and passageways must be kept free even during construction, loading in, etc.

**Flammable/combustible Liquids (1910.106, 1926.152).**Employers provides safe storage

**Electrical Safety (1926.401-.405, 1910.301-333).**

Marked clearance areas in front of electrical panels, Equipment ground faulted or double insulated - outlets GFCI, Plugs must have ground pin (3-prongs)

**State Smoking Regulations.** Employers are required to enforce them.

## PART II: UNDERSTANDING YOUR ENVIRONMENT & RISKS

**Physical characteristics of hazardous substances** - gases, vapors, fumes, dusts, mists, smoke

### **How materials enter the body--Routes of Entry**

1. inhalation - absorption gases, vapors, soluble particulates vs. retention of inert particles
  - direct damage
  - asphyxiants--physical and chemical
2. skin contact - direct damage--corrosives, irritants & penetration through skin
3. ingestion - from lung clearing mechanisms - eating, smoking, drinking in the workplace
4. injection

### **Toxicological concepts**

total body burden- dose/time - short-term/acute effects - long-term/chronic effects  
cumulative/non-cumulative: toxic substance half-life  
multiple exposures: additive/synergistic/antagonistic  
toxins affecting cell replication (DNA) - carcinogens, mutagens, teratogens - IARC, NTP  
sensitizers - cause allergies

### **Pigments & Dyes**

Use Classes: acid, direct, fiber reactive, etc.  
Chemical classes: anthraquinone, benzidine, aniline, etc.  
Dye-assisting chemicals (mordants)  
Hazards: - Short term from over poisoning: e.g., methemoglobinemia  
- Long term from allergies, cancer, reproductive damage, etc.

### **Related Hazardous Substances**

Organic solvents: adhesives, sprays, etc.  
Fiber dust: cotton, jute, synthetics, fiber glass, etc.  
Mold and mildew  
Other: Fabric softeners, detergent additives

**Fire Retardants** complex commercial compounds & homemade ammonium chloride + borax  
Certificate of Fitness for C-15 Supervise Flame Proofing - Field tests and liabilities

## PART III: PRECAUTIONS

### **Identify the chemical hazards in your products - What these labels REALLY mean**

Hypo-allergenic	Adequate ventilation	Food dyes	GRAS
Biodegradable	Low VOCs	water based	Nontoxic

### **Labeling laws**

CPSC & Labeling of Hazardous Art Material Act (LHAMA)  
California's Proposition 65  
European dye laws - ban on hundreds of dyes for use next to the skin

### **Air Quality Standards/laws and how to use them**

ACGIH standards: TLV-TWA, -STEL, -C  
OSHA laws: PEL-TWA, -STEL, -C, ELs - other standards

**Ventilation** - slides of many systems and workplaces